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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,089	10/03/2001	Hiroshi Kakutani	1391.1033	7929

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EXAMINER

CHANG, JON CARLTON

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 09/20/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,089

Applicant(s)

KAKUTANI ET AL.

Examiner

Jon Chang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2001.
2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-7 is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/12/01.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. The preliminary amendment filed July 12, 2001 has been entered and made of record. Claim 5 has been amended to depend from any one of claims 1 to 3.

Drawings

2. The drawings are objected to because: In fig.1, block 10, "EXTRATION" should read "EXTRACTION".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
- a) On page 9, fifth line of the last paragraph, "vitation" should read "variation".
 - b) Starting on the last line of page 18, for the text accompanying Figs.9 and 10, the step numbers do not appear to correspond to the step numbers provided in figures 9 and 10. It is suggested that the specification be reviewed carefully.

Appropriate correction is required.

Allowable Subject Matter

4. Claims 1-7 are allowed.

The claims require, detecting at each character position, the shortest distance between a character region and the lower edge of the smallest rectangle, and the shortest distance between the character region and the upper edge of the smallest rectangle, and judging whether the character string is in an upright state or an inverted state, on the basis of variations in the two shortest distances. These features, as claimed in combination with the other limitations of the claims, are neither disclosed nor suggested by the prior art of record.

References Cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,001,766 to Baird discloses an apparatus and method for skew control of document images which counts the number of picture elements in projections made along lines at selected angles across an image. The projection that generates the largest value of orientation of the image.

U.S. Patent 5,321,770 to Huttenlocher et al. discloses a method for determining boundaries of words in text. Huttenlocher et al. teaches obtaining a bounding box around a character string, and finding the distances from the character string to top and bottom edges of the bounding box (see Figs.15A and 15B). This is similar to one aspect of the claimed invention. However, Huttenlocher et al. does not disclose or suggest the invention as claimed. Huttenlocher is considered one of the closer prior art.

U.S. Patent 6,084,988 to Kanno et al. discloses an image processing apparatus which determines the direction of an image based on position and sizes of circumscribing rectangles for characters. As shown in Figs.17A and 17B, the start positions of character strings given an indication of the orientation of an image. Kanno et al. is considered one of the closer prior art, but does not disclose or suggest the invention as claimed.

U.S. Patent 6,332,046 to Fujimoto et al. discloses a document image tilt detection unit which extracts candidates for horizontal and vertical lines based on the character elements, estimates the reliability of each candidate for a line, and extracts a set of probable lines. The tilt of the document image is based on the arrangement of the character elements belonging to the line elements in the set of probable lines.

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U.S. Patent 6,683,983 to Shen et al. discloses a document-inclination detector which divides into small strips and extracts vertical and horizontal projection distributions, which are used to determine document inclination.

Conclusion

6. This application is in condition for allowance except for the following formal matters:

The objections to the specification and drawings, discussed above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

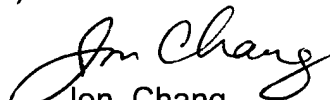
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
September 18, 2004